Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-17. (Canceled)

18. (Currently Amended) A method of brazing a titanium metal comprising the steps of;

coating a braze material onto a base material, said braze material being a mixture of Ti, Cu, Ni powders comprising 25-80% by weight Ti, 12-24% by weight Ni, and 12-22%Cu, wherein the Cu/Ni is between 0.5 and 1.0, and wherein the amount of Zr present in said braze material is from 0 to not more than 12 wt%;

placing said base material with said braze material in a vacuum furnace;

heating said braze material and said base material for a given braze time to achieve thermal stability between said braze material and said base material, said heating being up to a temperature that is not more than a braze temperature of said braze material; and

forming a braze joint between said braze material and said base material.

19. (Original) A method as in claim 18, wherein said braze material is further comprised of a precious metal (PM), the (Cu+PM)/Ni ratio is between 0.5 and 1.0, and there is 54-76% by weight Ti.

20. (Original) A method as in claim 19, wherein said braze material is further comprised of a precious metal (PM) and Zr, said Ti being 42-76 wt%, said Ni being 12-24 wt%, said Cu + PM being 12-22 wt%, said Zr being 0.5-12 wt%, and the Cu/Ni ratio is between 0.75 and 1.0.

21. (Canceled)

22. (Previously Presented) A method as in claim 20, wherein said braze material is further comprised of M, wherein M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd, Ge or any combinations thereof.

23. (Previously Presented) A method as in claim 22, wherein said braze material is comprised of 30-80 wt%Ti, 12-24 wt % Ni, 10-30% Cu, and 1-20 wt% M.

24. (Original) A method as in claim 18, wherein said braze material is further comprised of (a) wt% Ti, (b) wt% Ni, (c) wt% Cu, (d) wt% Al, (d) wt% Si, (d) wt% Nb, (d) wt% Mo, (d) wt% Co and (d) wt% Fe, wherein (a) : (b) : (c) are in the ratio of 11: 5: 4 and (d) is between 0 to 10.

25. (Previously Presented) A method as in claim 18, wherein said braze material is further comprised of PM and M powders and said Ti being 25-80 wt%, said Ni being 12-24 wt%, said Cu+PM being 10-30 wt%, and 1-20 wt% M.

26. (Original) A method as in claims 25, wherein said M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd, Ge or any combinations thereof.

27. (Previously Presented) A method as in claim 18, wherein said braze material is further comprised of PM and M powders, said Ti being 25-70 wt%, said Ni being 12-24 wt%, said Cu + PM being 10-30 wt%, said M being 1-20 wt%, and the (Cu+PM)/Ni ratio is between 0.8 and 1.0.

28. (Original) A method as in claim 27, wherein M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd and Ge or any combinations thereof.

29. (Original) A method as in claim 24, wherein said braze material is further comprised of Ti, Ni, Cu, Al, Si, Nb, Mo, Co and Fe powders.

30. (Original) A method of brazing a titanium metal comprising the steps of;

coating a first braze material onto a base material, said first braze material being a mixture of powders of Ti, Cu, Ni, PM, Zr, M comprising 20-80 wt% Ti, 10-30 wt% Cu, 10-30 wt % Ni, 0-20wt %PM, 0-20 wt% Zr, 0-20% M with a Ni/(Cu+PM) ratio between 0.77-0.93;

placing said base material with said braze material in a vacuum furnace;

performing a first heating of said braze material and said base material to achieve thermal stability between said braze material and base material, said first heating being up to a temperature that is not more than a first braze temperature of said braze material;

coating a second braze material onto said base material, said second braze material being a mixture of Ti, Ni, Cu, PM, Zr, M comprising 1-20 wt% more of PM, Zr, M or combinations thereof than said first braze;

performing a second heating of said second braze material and said base material up to a second braze temperature; and

forming a braze joint between said second braze and said base material.

31. (Original) The method as in claim 30, wherein said base material is an isomorphous beta phase only titanium base material selected from the group consisting of Ti-15 V-3 Cr-3 Sn-3 Al, Ti-15Mo-3Nb -3Al – 0.2Si, and Ti-13 V-11 Cr-3 Al.

32. (Original) The method as in claim 30, wherein said base material is a titanium metal selected from the group consisting of Ti-6Al-2Sn-4Zr-2Mo and Ti-3Al-2.5V.

33. (Original) The method as in claim 30, wherein said second braze temperature is between 10 °C and 100 °C lower than the first braze temperature, and in the range 800-900°C.

34. (Original) A method of brazing a titanium metal comprising the steps of;

coating a first braze material onto a base material, said first braze material being a mixture of powders of 20-80 wt% Ti, 10-30 wt% Cu, 10-30 wt % Ni, 0-20 wt% PM, 0-20 wt% Zr, 0-20 wt% M and a Ni/(Cu+PM) ratio between 0.77-0.93;

placing said base material with said braze material in a vacuum furnace;

performing a first heating of said braze material and said base material to achieve thermal stability between said braze material and base

material, said first heating being up to a temperature that is not more than a first braze temperature of said braze material;

coating a second braze material onto said base material, said second braze material being a mixture of Ti, Ni, Cu, PM, Zr, M , said second braze material comprising 1-20 wt% more of PM, Zr, M or combinations thereof than said first braze;

performing a second heating of said braze material and said base material up to a second braze temperature; and

forming a braze joint between said second braze and said base material.

35. (Original) The method as in claim 34, wherein said base material is an isomorphous beta phase only titanium base material selected from the group consisting of Ti-15 V-3 Cr-3 Sn-3 Al, Ti-15Mo-3Nb -3Al – 0.2Si, and Ti-13 V-11 Cr-3 Al.

36. (Original) The method as in claim 34, wherein said base material is a titanium base material selected from the group consisting of Ti-6Al-2Sn-4Zr-2Mo and Ti-3Al-2.5V.

37. (Original) The method as in claim 34, wherein said second braze temperature is between 10 °C and 100 °C lower than the first braze temperature, and in the range 800-900°C.

38-44. (Canceled)

45. (Withdrawn) A method as in claim 27, wherein said Zr being 0.0 wt% and M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd and Ge or any combinations thereof.